

WHAT IS CLAIMED IS:

- 1 1. A method, comprising:
2 designating a first portion of a virtual memory space as an unreserved portion
3 which is conditionally accessible by a class of memory users which includes at least one
4 memory user wherein said unreserved portion is mapped to physical memory space;
5 designating a second portion of said virtual memory space as a reserved portion
6 which is conditionally unavailable for use by any memory user of said class of memory
7 users; and
8 converting a subportion of one of said unreserved portion and said reserved
9 portion to a subportion of the other of said unreserved portion and said reserved portion.
- 1 2. The method of claim 1 further comprising allocating a buffer subportion of the
2 unreserved portion of said virtual memory space for use as a buffer memory by a
3 memory user of said class of memory users.
- 1 3. The method of claim 2 wherein said allocating includes changing a bit of a
2 bitmap representing said unreserved portion to indicate that said buffer subportion is
3 allocated to a memory user.
- 1 4. The method of claim 3 further comprising subsequently unallocating said
2 buffer subportion so that said buffer subportion is available to be allocated to a user of
3 said class of memory users.
- 1 5. The method of claim 4 wherein said unallocating includes changing a bit of a
2 bitmap representing said unreserved portion to indicate that said buffer subportion is
3 available to be allocated to a user of said class of memory users.

1 6. The method of claim 1 wherein said converting includes converting a
2 subportion of said unreserved portion to a subportion of said reserved portion.

1 7. The method of claim 1 wherein said converting includes converting a
2 subportion of said reserved portion to a subportion of said unreserved portion.

1 8. The method of claim 1 wherein said reserved and unreserved portions are
2 contiguous in said virtual memory space and the boundary between said reserved and
3 unreserved portions is represented by a virtual memory address and wherein said
4 converting includes changing the virtual memory address of the boundary.

1 9. The method of claim 1 wherein said class of memory users are users of a send
2 and receive agent.

1 10. The method of claim 1 wherein said physical memory is a part of a host
2 memory.

1 11. The method of claim 1 wherein said reserved portion is not mapped to
2 physical memory space.

1 12. An article comprising a storage medium, the storage medium comprising
2 machine readable instructions stored thereon to:

3 designate a first portion of a virtual memory space as an unreserved
4 portion which is conditionally accessible by a class of memory users which includes at
5 least one memory user wherein said unreserved portion is mapped to physical memory
6 space;

7 designate a second portion of said virtual memory space as a reserved
8 portion which is conditionally unavailable for use by any memory user of said class of
9 memory users; and

10 convert a subportion of one of said unreserved portion and said reserved
11 portion to a subportion of the other of said unreserved portion and said reserved portion.

1 13. The article of claim 12 wherein the storage medium further comprises
2 machine readable instructions stored thereon to allocate a buffer subportion of the
3 unreserved portion of said virtual memory space for use as a buffer memory by a
4 memory user of said class of memory users.

1 14. The article of claim 13 wherein the machine readable instructions to allocate
2 include machine readable instructions stored on the storage medium to change a bit of a
3 bitmap representing said unreserved portion to indicate that said buffer subportion is
4 allocated to a memory user.

1 15. The article of claim 14 wherein the storage medium further comprises
2 machine readable instructions stored thereon to subsequently unallocate said buffer
3 subportion so that said buffer subportion is available to be allocated to a user of said class
4 of memory users.

1 16. The article of claim 15 wherein the machine readable instructions to
2 unallocate include machine readable instructions stored on the storage medium to change
3 a bit of a bitmap representing said unreserved portion to indicate that said buffer
4 subportion is available to be allocated to a user of said class of memory users.

1 17. The article of claim 12 wherein the machine readable instructions to convert
2 include machine readable instructions stored on the storage medium to convert a
3 subportion of said unreserved portion to a subportion of said reserved portion.

1 18. The article of claim 12 wherein the machine readable instructions to convert
2 include machine readable instructions stored on the storage medium to convert a
3 subportion of said reserved portion to a subportion of said unreserved portion.

1 19. The article of claim 12 wherein said reserved and unreserved portions are
2 contiguous in said virtual memory space and the boundary between said reserved and
3 unreserved portions is represented by a virtual memory address and wherein the machine
4 readable instructions to convert include machine readable instructions stored on the
5 storage medium to change the virtual memory address of the boundary.

1 20. The article of claim 12 wherein said class of memory users are users of a send
2 and receive agent.

1 21. The article of claim 12 wherein said physical memory is a part of a host
2 memory.

1 22. The article of claim 12 wherein said reserved portion is not mapped to
2 physical memory space.

1 23. A system, comprising:
2 a virtual memory space comprising a plurality of memory addresses;
3 a physical memory which includes data storage, said physical memory
4 having a physical memory space comprising a plurality of physical memory addresses;
5 a processor coupled to the physical memory;
6 a network controller which includes a class of physical memory users
7 which includes at least one physical memory user;
8 a data storage controller for managing Input/Output (I/O) access to the
9 data storage; and

10 a device driver executable by the processor in the memory, wherein at
11 least one of the device driver and the network controller is adapted to:
12 (i) designate a first portion of a virtual memory space as an
13 unreserved portion which is conditionally accessible by said class of memory
14 users wherein said unreserved portion is mapped to said physical memory space;
15 (ii) designate a second portion of said virtual memory space as a
16 reserved portion which is conditionally unavailable for use by any memory user
17 of said class of memory users; and
18 (iii) convert a subportion of one of said unreserved portion and
19 said reserved portion to a subportion of the other of said unreserved portion and said
20 reserved portion.

1 24. The system of claim 23 wherein at least one of the device driver and the
2 network controller is further adapted to allocate a buffer subportion of the unreserved
3 portion of said virtual memory space for use as a buffer memory by a memory user of
4 said class of memory users.

1 25. The system of claim 24 further comprising a bitmap having a plurality of bits
2 representing said unreserved portion and wherein said allocating includes changing a bit
3 of said bitmap representing said unreserved portion to indicate that said buffer subportion
4 is allocated to a memory user.

1 26. The system of claim 25 wherein at least one of the device driver and the
2 network controller is further adapted to subsequently unallocate said buffer subportion so
3 that said buffer subportion is available to be allocated to a user of said class of memory
4 users.

1 27. The system of claim 26 wherein said unallocating includes changing a bit of a
2 bitmap representing said unreserved portion to indicate that said buffer subportion is
3 available to be allocated to a user of said class of memory users.

1 28. The system of claim 23 wherein said converting includes converting a
2 subportion of said unreserved portion to a subportion of said reserved portion.

1 29. The system of claim 23 wherein said converting includes converting a
2 subportion of said reserved portion to a subportion of said unreserved portion.

1 30. The system of claim 23 wherein said reserved and unreserved portions are
2 contiguous in said virtual memory space and the boundary between said reserved and
3 unreserved portions is represented by a virtual memory address and wherein said
4 converting includes changing the virtual memory address of the boundary.

1 31. The system of claim 23 wherein at least one of the device driver and the
2 network controller includes a send and receive agent which includes said class of
3 memory users.

1 32. The system of claim 23 further comprising a host memory and said physical
2 memory is a part of a host memory.

1 33. The system of claim 23 wherein said reserved portion is not mapped to said
2 physical memory space.

1 34. The system of claim 23 for use with an unshielded twisted pair cable, said
2 system further comprising an Ethernet data transceiver coupled to said network controller
3 and said cable and adapted to transmit and receive data over said cable.

1 35. The system of claim 23 further comprising a video controller coupled to said
2 processor.

1 36. A network adapter for use with a system which includes a virtual memory
2 space comprising a plurality of memory addresses, a physical memory which includes
3 data storage, said physical memory having a physical memory space comprising a
4 plurality of physical memory addresses; the adapter comprising:
5 a class of physical memory users which includes at least one physical
6 memory user;
7 wherein the network adapter is adapted to:
8 (i) designate a first portion of said virtual memory space as an
9 unreserved portion which is conditionally accessible by said class of memory
10 users wherein said unreserved portion is mapped to said physical memory space;
11 (ii) designate a second portion of said virtual memory space as a
12 reserved portion which is conditionally unavailable for use by any memory user
13 of said class of memory users; and
14 (iii) convert a subportion of one of said unreserved portion and
15 said reserved portion to a subportion of the other of said unreserved portion and said
16 reserved portion.

1 37. The adapter of claim 36 wherein the network adapter is further adapted to
2 allocate a buffer subportion of the unreserved portion of said virtual memory space for
3 use as a buffer memory by a memory user of said class of memory users.

1 38. The adapter of claim 37 further comprising a bitmap having a plurality of bits
2 representing said unreserved portion and wherein said allocating includes changing a bit
3 of said bitmap representing said unreserved portion to indicate that said buffer subportion
4 is allocated to a memory user.

1 39. The adapter of claim 38 wherein the network adapter is further adapted to
2 subsequently unallocate said buffer subportion so that said buffer subportion is available
3 to be allocated to a user of said class of memory users.

1 40. The adapter of claim 36 wherein said reserved and unreserved portions are
2 contiguous in said virtual memory space and the boundary between said reserved and
3 unreserved portions is represented by a virtual memory address and wherein said
4 converting includes changing the virtual memory address of the boundary.

1 41. The adapter of claim 36 wherein said reserved portion is not mapped to said
2 physical memory space.